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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/966,784      | 09/28/2001  | Kiyoshi Kaneko       | 1232-4773           | 5081             |

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| EXAMINER |
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LEE, CHEUKFAN

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| ART UNIT | PAPER NUMBER |
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2622

DATE MAILED: 04/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                                      |  |
|------------------------------|--------------------------------------|--------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>09/966,784 | <b>Applicant(s)</b><br>KANEKO ET AL. |  |
|                              | <b>Examiner</b><br>Cheukfan Lee      | <b>Art Unit</b><br>2622              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 September 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 8, 11-14, 16 and 19-25 is/are rejected.
- 7) ☒ Claim(s) 4, 6, 7, 9, 10, 15, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. Claims 1-25 are pending. Claims 1, 12 and 20 are independent.
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 8, 11-14, and 19-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Hasegawa et al. (U.S. Patent No. 6,612,681).

Regarding claim 1, Hasegawa et al. discloses an apparatus comprising a printing unit (monochromatic print head 49 shown in Fig. 8 or color print head 50 shown in Fig. 9, or the recording head not shown in but with reference to Fig. 12) for printing information on a printing medium, a reading unit (scanner head 200 shown in Fig. 10, or reading head 601 shown in Fig. 12) for reading information, and a carriage (2 in Fig. 1 or 602 in Fig. 12) for supporting and moving the printing unit (49 or 50) and the reading unit (200 or 601), and a position detector (positional encoder 605) for detecting movement position of the carriage (2 or 602) in left-to-right and right-to-left directions (corresponding to the forward and backward directions of the motor).

Please see the following areas of Hasegawa et al.:

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A) col. 13, line 20 to col. 15, line 49, note col. 13, lines 20 – 40, col. 14, lines 23-26, line 57, col. 15, line 19, Figs. 8-10;

B) col. 15, line 50 to col. 18, line 20, note col. 15, lines 55-65, col. 16, line 13, line 50, col. 17, lines 23-26, line 27 and line 38, Figs. 11-14; and

C) col. 36, line 39 to col. 38, line 5, note col. 36, lines 39 and 59-62, and col. 37, lines 19 and 33-37.

Regarding claim 2, the printing head (49 or 50) and the scanner head or reading head (200 or 601) are detachably provided on the carriage (2 or 602) which is provided on a main body of the apparatus (col. 16, lines 51-55).

Regarding claim 3, Hasegawa et al. further discloses that the deviation amount of the carrier motor at the time of forward and reverse scanning is measured, and the misregistration in the bi-directional recording/scanning is corrected (col. 36, lines 39 and 59-62; col. 37, lines 19 and 33-37). An error adjustment unit as claimed is inherent for correcting the deviation amount.

Regarding claim 8, the reading unit (scanner head 200 or reading head 601) performs the reading operation in movement of the carriage (2 or 602) in the left-to-right and right-to-left directions (corresponding to the forward and reverse directions of the motor).

Regarding claim 11, the printing unit (print head 49 or 50) includes an ink jet print head (title of Hasegawa et al.).

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For claim 12, see discussion for claim 1 with respect to the reading unit (scanner head 200 in Fig. 10, or reading head 601 in Fig. 12), for claim 12 claims the limitations of claim 1 except for the printing head.

For claim 13, see discussion for claim 2 with respect to the reading unit (scanner head or reading head).

For claim 14, see discussion for claim 3, for claim 14 claiming the same limitations as those of claim 3.

For claim 19, see discussion for claim 8, for claim 19 claiming the same limitations as those of claim 8.

Claims 20-25 are rejected as being method claims corresponding to the rejected apparatus claims 12, 13, 14, 15, 18, and 19, respectively.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa et al. (U.S. Patent No. 6,612,681).

Claims 5 and 16 each recite "wherein said position detector includes said error adjustment unit". As discussed for claims 3 and 14 upon which claims 5 and 16 depend, respectively, the error adjustment unit is inherent for correcting the deviation

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amount (positional deviation amount), since the deviation of the carrier motor at the time of forward and reverse scanning is measured, and the misregistration in the bi-directional recording/scanning is corrected (col. 36, lines 39 and 59-62; col. 37, lines 19 and 33-37; Fig. 31).

The position encoder (605) of Hasegawa et al. is interpreted to read on the claimed position detector. Hasegawa et al. does not explicitly disclose that the error adjustment unit is included in the position detector (605). However, one of ordinary skill in the art would have realized the advantage of including the error adjustment unit in the position detector (605), which advantage is to shorten signal lines between the error adjustment unit and the position detector, since the error adjustment is inherently responsive (directly or indirectly) to signals supplied from the position detector (605). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the inherent error adjustment unit (position deviation correction unit) of Hasegawa et al. in order to shorten the signal lines between the error adjustment unit and the position detector (605).

6. Claims 4, 6, 7, 9, 10, 15, 17, and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is an examiner's statement of reasons for allowance:

Claims 4 and 15 and their dependent claims 6 and 17, respectively, would be allowable because Hasegawa et al. does not disclose a data array correction unit for correcting the discrepancy in an array of data, when information reading data is acquired, caused by a discrepancy in information reading direction between the forward and reverse directions as required by claim 4.

Claims 7 and 18 would be allowable over Hasegawa et al. because Hasegawa et al. does not disclose adjusting the information reading position error by using an adjustment resolution for which the minimum unit of resolution is a resolution that is a whole-number multiple of the resolution of the reading unit (scanner head 200 or reading head 601).

Claims 9 and its dependent claim 10 would be allowable because in Hasegawa et al., the position deviation correction is performed separately for the image reading operation (Fig. 39, col. 37, lines 19-37) and for the image printing operation (Fig. 38, col. 36, lines 39-62). The reading position error correction does not take as a reference a correction position obtained by correcting printing position error produced by printing in the left-to-right direction (forward direction) and printing in the right-to-left direction (reverse direction) when the apparatus functions as a printing apparatus.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hasegawa et al. (U.S. Patent No. 6,511,141) discloses an ink jet recording apparatus capable of reading images having an installation unit for installing an image reading head.

Hasegawa et al. (U.S. Patent No. 6,318,836) discloses an apparatus for recoding and image reading where a recording head and an image reading head are exchangeably used.

Hasegawa et al. (U.S. Patent No. 6,091,514) discloses an apparatus for recoding and image reading where a recording head and an image reading head are exchangeably used.

Oida et al. (U.S. Patent No. 5,987,186) discloses an image processing apparatus and system having a detachably mounted read carriage (Fig. 3).

Ryu (U.S. Patent No. 6,295,386) discloses an apparatus and method for correcting image errors in a shuttle type of scanner.

Kurata et al. (U.S. Patent No. 6,388,774) discloses an image reading apparatus having a carriage on which a scanner head or a printing head (6) is mounted.

Ikeda (U.S. Patent No. 6,390,588) discloses a printing apparatus and method of detecting registration deviation.

Raskin (U.S. Patent No. 5,519,415) discloses and adjusting device for adjusting an encoder-signal timing uncertainty to improve esthetic quality in bi-directional inkjet printing.



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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheukfan Lee whose telephone number is (571) 272-7407. The examiner can normally be reached on 9:30 a.m. to 6:00 p.m., Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (571) 272-7402. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cheukfan Lee  
April 2, 2005



Cheukfan Lee